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COOPERATIVE DEVELOPMENT OF DESIGN FOR LONG-TERM RESEARCH PROJECT DIRECTED TOWARD THE IDENTIFICATION AND EVALUATION OF A CONCEPTUAL FRAMEWORK FOR THE CURRICULUM IN PHYSICAL EDUCATION, GRADES K-16.

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DESCRIPTORS- *PHYSICAL EDUCATION, *RESEARCH PROJECTS, *CURRICULUM DEVELOPMENT, *LEARNING EXPERIENCE, *RESEARCH METHODOLOGY,

A TENTATIVE DESIGN WAS DEVELOPED FOR A RESEARCH PROJECT TO BE DIRECTED TOWARD THE DEVELOPMENT OF A CONCEPTUAL FRAMEWORK FOR A FUNCTIONAL CURRICULUM IN PHYSICAL EDUCATION FOR GRADES K-16. THE RESEARCH PLAN WILL BE USED AS A BASE FOR FUTURE EFFORTS OF THE AMERICAN ASSOCIATION FOR HEALTH, PHYSICAL EDUCATION AND RECREATION TO GIVE NATIONAL LEADERSHIP IN THE IMPROVEMENT OF PHYSICAL EDUCATION CURRICULUMS AND PROGRAMS. THE RESEARCH EFFORT IS EXPECTED TO EXTEND OVER 5 TO 10 YEARS. SOME KEY ISSUES AND PROBLEMS FACING THE PHYSICAL EDUCATORS IN IMPROVING SCHOOL PROGRAMS ARE IDENTIFIED AND DISCUSSED IN THIS REPORT. (AL)

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FINAL REPORT
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AMERICAN ASSOCIATION FOR HEALTH,
PHYSICAL EDUCATION AND RECREATION

Washington, D.C.

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Anita Aldrich

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Washington, D.C.

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Problem

Physical education was first introduced into the schools of the United States during the latter years of the 19th century as a brief period of systematic exercise. Through the years it has evolved into one of the most complex areas of instruction provided in grades K-1. Today, the idea of providing experiences and instruction in physical education is well-established in the educational pattern, but this idea may be directed toward different ends within the educational programs of diverse school systems.

In 1929, a national-level committee was charged with responsibility for developing guidelines for a comprehensive curriculum in physical education. These guidelines were eventually established on the basis of empirical analysis and consensus about the needs of children and the ways in which those needs might be served by the several kinds of experiences and activities then being utilized in the name of physical education. During the years since the publication of these guidelines, there have been many inservice studies of the physical education curriculum at the local level, but there has been no comprehensive attempt to reconsider the basic questions of curriculum in the light of evolving educational thought and practice.

In 1963, the Physical Education Division of AAHPER took the first step toward bringing all of the forces of current educational understanding to bear on the basic questions of curriculum in physical education. A Curriculum Commission was established, and funds were provided within the Division's budget to enable this Commission to meet and discuss plans for a massive attack on this problem. Similar funds were allotted for 1964-65, for 1965-66 and for 1966-67. To date, the Curriculum Commission has reached agreement on the following points:

1) The functional curriculum of physical education now operative in the schools of the United States is a hodge-podge of concepts, experiences, and activities which has no consistent pattern of objectives, content, or education interpretation;

2) In many schools, the children and young adults who are subjected to these experiences are not deriving from them the kinds of learning and personal development which might accrue to their participation in this aspect of the educational program;

3) There is a need for a comprehensive conceptual framework which will include and support the specific experiences of physical education in educationally meaningful terms;

4) The development of such a conceptual framework will require cooperative effort among representatives of all sub-areas within the general concept of physical education over an extended period of time, which might be as long as five to ten years;

5) The eventual value of such a cooperative effort will be greatly dependent on the quality of the preliminary planning which must precede the development of a formal research design;

6) The preliminary planning must involve representatives of the instructional and administrative personnel who will conduct the trial and evaluation phase of the long-term study as well as eventually implement the proposed curriculum in the school program;

7) The selection of a Director or Principal Investigator for such a long-term study is crucial, and the selection must be carefully considered by all involved personnel, as well as by the Curriculum Commission;

8) The process of developing a research design and identifying a Principal Investigator and appropriate Research Consultants for such a long-term study is, in itself, a research project of sufficient magnitude to require more financial support than can be provided within the budget of the Physical Education Division of AAHPER.

Objectives

The specific objective of the present study was the development of a design for a five-to-ten year research project which will be directed toward the eventual development of a functional curriculum in physical education, grades K-16. It was proposed that this functional curriculum should be supported by a conceptual framework within which the kinds of learning which accrue to the specific experiences in physical education may be identified and interpreted in terms appropriate to contemporary understanding of the nature of man and the nature of the human learning process.

Related Research

The curriculum or curriculum-related research in physical education reported prior to the late 1950's is summarized by Alley (1) whose article also contains an exhaustive bibliography. The earliest extensive study was conducted beginning in 1929 by a national committee of AAHPER whose major objective was "to formulate a comprehensive curriculum of physical education activities, so graded as to eliminate unnecessary duplication from year to year and so balanced as to be adaptable to any ordinary community situation (6)."

It is noteworthy that all of the curriculum studies indexed as having appeared in the Research Quarterly, 1930-1960, appeared between the years 1930-1937 (7). Several more recent studies

appearing in this journal and others (2,3,4,5,8) lead one to conclude that there is no conceptual framework, there is little consistency in content (except that sports skills and activities predominate), and that there is a wide disparity in the quality of existing programs. The report by Bookwalter and Bookwalter (3) represents the most comprehensive effort to evaluate the status of high school programs. The overall finding is that, for the most part, the programs are extremely weak.

Perhaps the most encouraging curriculum study in another discipline that has significance for physical education has been the Comprehensive School Health Education Study (9). This long-term study has resulted in a rather complete conceptual framework and in experimental implementation of methods and materials designed to facilitate student attainment of the concepts. The nature of the subject matter and the design of the study, although not entirely similar, are such that it has particular significance for the study herein proposed, especially with respect to process.

Procedure

1) A meeting of the Curriculum Commission of the Physical Education Division of the American Association for Health, Physical Education, and Recreation was scheduled as promptly as possible following negotiation of the contract. In order to begin implementation of the project, this commission met in Washington, D.C. on May 24 and 25, 1966. The following individuals attended this meeting:

Dr. Anita Aldrich (Chairman), Indiana University, Bloomington
Dr. Roscoe Brown, New York University, New York
Miss Hazel Dettman, Fargo Public Schools, South Dakota
Mr. Bernard Dolat, State Department of Education, Hartford, Connecticut
Dr. Ann Jewett, Springfield College, Massachusetts
Dr. George Kenyon, University of Wisconsin, Madison
Dr. Roswell Merrick, Consultant in Physical Education, AAHPER
Dr. Helen Starr, TAMA, Minneapolis

This meeting focused attention upon major objectives of the physical education curriculum as a background for developing the conceptual framework, possible research designs, and specific procedures for involvement of appropriate personnel in the conduct of the planning project. Results of this meeting included the following:

a) The members agreed that the concepts should serve to

delineate the research in such a way that real depth and new teaching innovations may result.

b. It was agreed that varying approaches in research based on different environmental influences should be considered, that the research design should provide for the study of curriculum patterns or strategies in on-going public school situations.

c. It was recognized that the implementation of various teaching techniques and programs would be viewed in a broader context if school administrators, boards of education, classroom teachers, and those involved in professional preparation of teachers could become "the innovators". It was deemed essential to involve representatives of these groups very early in the design.

d. It was determined that the planning of further specifics of the long-range study should be developed by a task force charged with this particular responsibility. It was agreed that three members of the Curriculum Commission and three physical education curriculum consultants would be invited to serve on this task force.

2) A research assistant was employed by the chairman of the task force, to assist with identification and review of relevant curriculum research literature. This appointment was made effective June 1, 1966.

3) A physical education curriculum research planning conference was held in Washington, D. C., July 18-20, attended by representatives of elementary school physical education, secondary school physical education, state departments of education, and college and university physical education curriculum specialists. Participants were selected on the basis of their ability to contribute to the development of the needed research design. The conference was deemed highly productive. Major attention was focused upon the following:

a. The participants clarified terminology to be used.

b. The interrelationships of this project and other major efforts of the AAHPER were clarified.

c. Dr. Elena Sliepcevich, Director of the School Health Education Study, met with the group as a consultant on research procedures.

d. Major phases in the research design were identified.

e. Procedures for selecting a project director were considered.

f. Specific responsibilities for next steps were delegated to individual participants.

4) One participant, Dr. Perry Johnson, University of Toledo, in the July conference was designated to write the preliminary plan, based upon the discussions and agreements reached during the July 18-20 meeting, and using such consultant assistance as needed.

5) The first draft was revised by six persons through correspondence and a meeting in Washington, D. C.

6) The second draft was revised by four individuals through correspondence and meetings in Toledo and Los Angeles.

7) The third draft was submitted for review and suggestions to the members of the following groups:

a. the Preliminary Planning Committee;
b. the Curriculum Commission of the Physical Education Division and;
c. the Physical Education Division Executive Council.

These three groups included 25 different individuals, some of whom belong to more than one of the three groups. The third draft was also submitted to approximately 25 additional physical educators, who had not been involved previously in the actual planning.

8) A final draft, revised in light of the reactions of approximately 50 selected professional physical educators, is attached as the major portion of this report.

Results

1) Model for the Development of a Conceptual Framework for the Curriculum in Physical Education

Concept has been defined as a complex abstraction, constructed by the learner himself "out of his own experiences" or as a "symbolic response to the members of one group or class of stimulus patterns (4)." Thus concepts may be defined as ideas, principles, generalizations, understandings, mediating variables, or interrelationships among facts. As used in curriculum development, concepts may be further defined as generalizations which serve to give structure and organization to a given discipline or to the total curriculum. Further, the term concept, as used in connection with the development of physical education curricula, must be

interpreted to include, in some way, the unique dimension of physical education, that is, the action or psychomotor dimension. For this reason, am amplification of exactly how concepts, which are obviously subsumed under the cognitive domain, can be logically employed to build a curriculum in physical education, an "action" oriented discipline, is imperative.

Two key concepts have been identified for this physical education curriculum study. They are designated as zero-order concepts and are symbolized by C. These key concepts are broad categories, each one including many concepts of a lower order, all of which tend to gravitate toward the same pole with respect to whether they are:

a. concepts which express an effect <u>on</u> movement or, on the other hand;
b. are affected <u>by</u> movement.

The key concept (C.) tieing together those concepts which relate to things which <u>affect</u> movement has been appropriately identified as the <u>afferent</u> concept (aC.). Its counterpart, subsuming all concepts which relate to things affected <u>by</u> movement, has been designated the <u>efferent</u> concept (eC.).

The lower-order or subordinate concepts are designated as first, second, and third-order concepts (C_1, C_2, C_3), and so on, with the lowest-order concept in a given set designated as the final-order concept (C_f). A C_f may be, in fact, a second or lower-order concept. It is these final-order concepts which will eventually serve as the actual organizing elements of the curriculum. As such, each C_f will have associated with it specific program <u>objectives</u>. These objectives will be classified according to whether they relate to the cognitive, affective, and psychomotor or action domains and will be different for different grade levels. It is important to point out, at this stage, that the concepts <u>per se</u> are cognitive in nature, but that in physical education as well as in other disciplines, there are objectives <u>relating to</u> each concept which are "affective" and "action" oriented.

Once having developed the lower-order concepts and the program objectives for each final-order concept, the next step is to develop learning opportunities designed to implement, facilitate, or reinforce the attainment of the objectives at a particular grade level. These opportunities will be primarily, although not exclusively, psychomotor experiences in all three of the categories; therefore, physical education will remain an action oriented discipline. It should be made clear, however, that in some instances

a given concept may not have any logical program objectives related to the affective or to the action dimension; neither will all learning opportunities be necessarily action-oriented, that is to say, some objectives will best be met through strictly cognitive experiences. Even in most of these cases, however, there will be action experiences designed to reinforce the attainment of the concept.

The integrity of the concepts, objectives, and learning opportunities, as described above, is further illustrated in Figure 1 for purposes of clarification.

The key concepts (C.) and first-order concepts (C_1) have been developed and are presented in Table I.

Examples of possible second, third, and final-order concepts, without regard to their order, are listed in Appendix A. They are listed for illustration only and should not be construed as the final elements of the conceptual framework to be developed during the initial stages of the proposed study.

It is important to point out that, for purposes of this proposed study, it is required that the key and first-order concepts developed shall be relatively "value-free." (for example, "movement is facilitated and limited by the structure and function of the organism.)" These concepts will serve as basic elements for the complete conceptual framework which will in turn become the basis for the development of the series of related and progressive experiences known as a curriculum.

2) Tentative Research Design

To provide a brief description of the overall, long-range design, a table depicting the basic components of the proposed project is provided (Table II).

Phase I. The Conceptual Framework

The project director and the Steering Committee working with the research centers and appropriate consultants will develop a series of subconcepts (based upon the zero and first-order concepts already produced by the preliminary planning group) to complete the conceptual framework for a curriculum in physical education, K-12. After modification and revision, as needed, the proposed framework will be submitted to a selected cross-sectional and representative committee of approximately one-hundred experts in physical education and related fields for evaluation and suggestions;

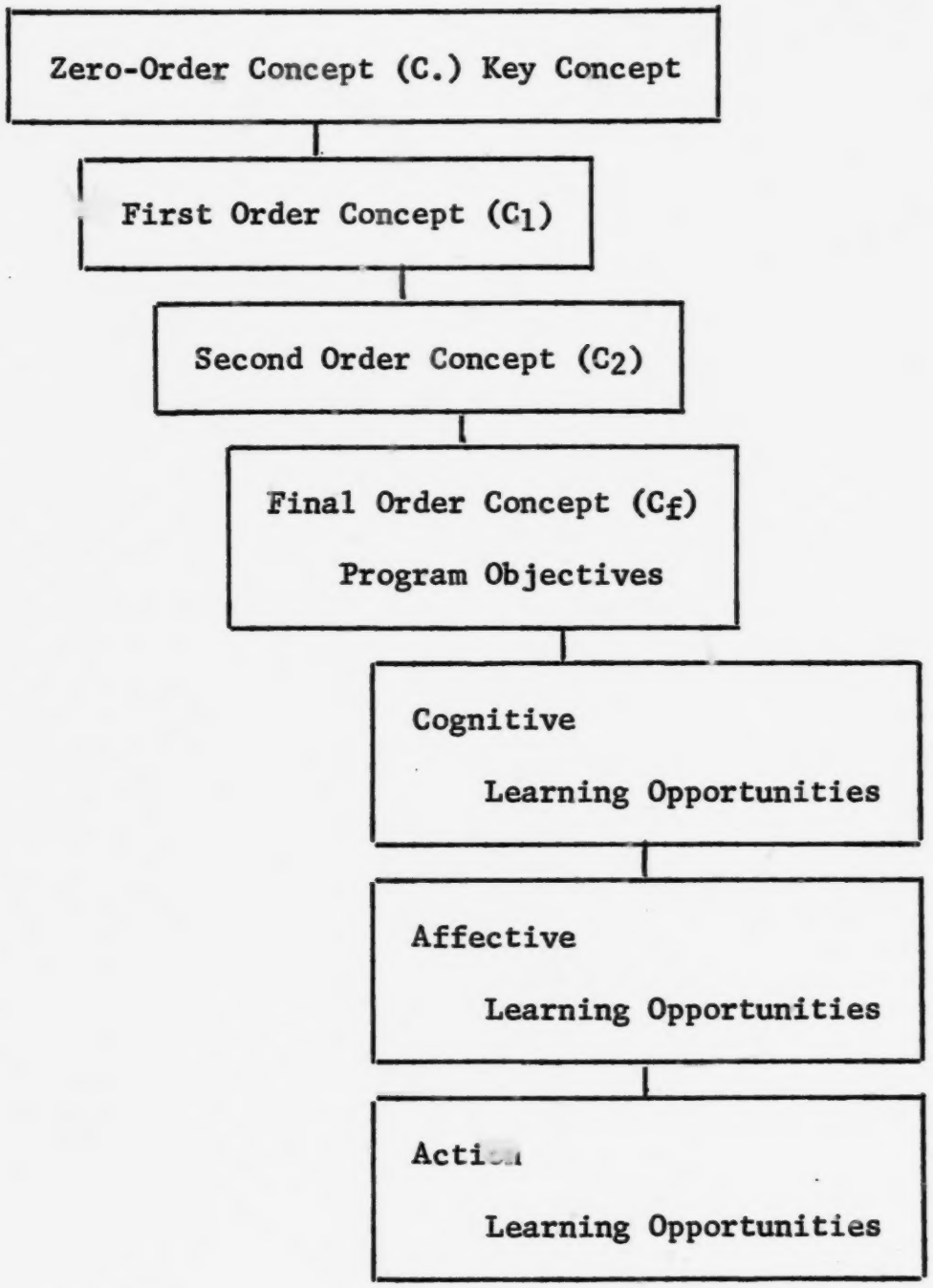


FIGURE 1

Schematic Illustrating Conceptual Framework,

Key Concepts through Learning Opportunities

TABLE I

Zero and First Order Concepts

	The Afferent Concepts (aC)	The Efferent Concepts (eC)
Key Concept (C.)	Movement is affected by extrinsic and intrinsic factors (aC.)	Movement affects extrinsic and intrinsic factors (eC.)
First-order Concepts (C_1)	1) Movement is facilitated and limited by structure and function of the organism (aC_{11}) 2) Movement is facilitated and limited by the environmental situation (aC_{12})	1) Movement can modify the environment (eC_{11}) 2) Movement can affect structure and function of the organism (eC_{12}) 3) Movement can be excessive and/or communicative (eC_{13})

TABLE II

Outline of Total Project

Phase	Time	Description of Activities	Field Relations
		Study	
Pre-Study	3 months	Select and establish research centers. Director working with preliminary planning committee will make selections. (Actual selection will preceed funding period).	
Study I	6 months	Expansion of the conceptual framework by development of sub-concepts (C_2 - C_f) in each category. Development of specific program objectives for all final-order concepts.	Articles in appropriate journals describing intent and scope of project.
II	20 months	Development of specific learning opportunities, methods and materials. Field trials of all opportunities, methods and materials. Revision of experiences, methods and materials.	
III	4 months	Compilation of results obtained from research centers. Preparation of final report.	Report to the profession concerning the project, its strengths and limitations suggesting appropriate further work.
Subsequent Activities			
1.	24 months	Expansion of completed opportunities and materials to include all grade levels.	
2.	24 months	Experimental evaluations of all units developed. Cross cultural study of effectiveness of entire curriculum. Statistical, case study and interview techniques to be utilized.	
3.	2-4 years	Retraining and training institutes and workshops for teachers.	

final revision of the framework will follow.

Phase II. Experiences, methods, and materials

The research centers, in interaction with the Steering Committee and all available consultants and other resources will prepare ideas and topics for specific learning opportunities to be developed to implement the objectives that will have evolved from the subconcepts of the framework. After approval by the Steering Committee, learning opportunities will be devised, instructional materials prepared and tried in local schools by the research centers. Appropriate clinical evaluations, revisions and other experimentation will result in the accumulation of a series of experiments, demonstrations, activities, lectures, etc., appropriate for use at predetermined levels.

Phase III. Compilation of results

At the conclusion of the developmental period all materials, etc., will be compiled into a unified report by the projector director assisted by the Steering Committee. A report of the project will be made to the profession via professional journals.

In subsequent studies the developed materials will be formally evaluated under experimentally controlled conditions. Provision will also be made for modification and expansion of the curriculum. Materials will be prepared and distributed to educators as a separate endeavor.

Specific Methods and Procedures

Organizational structure (See Figure 2)

Administration

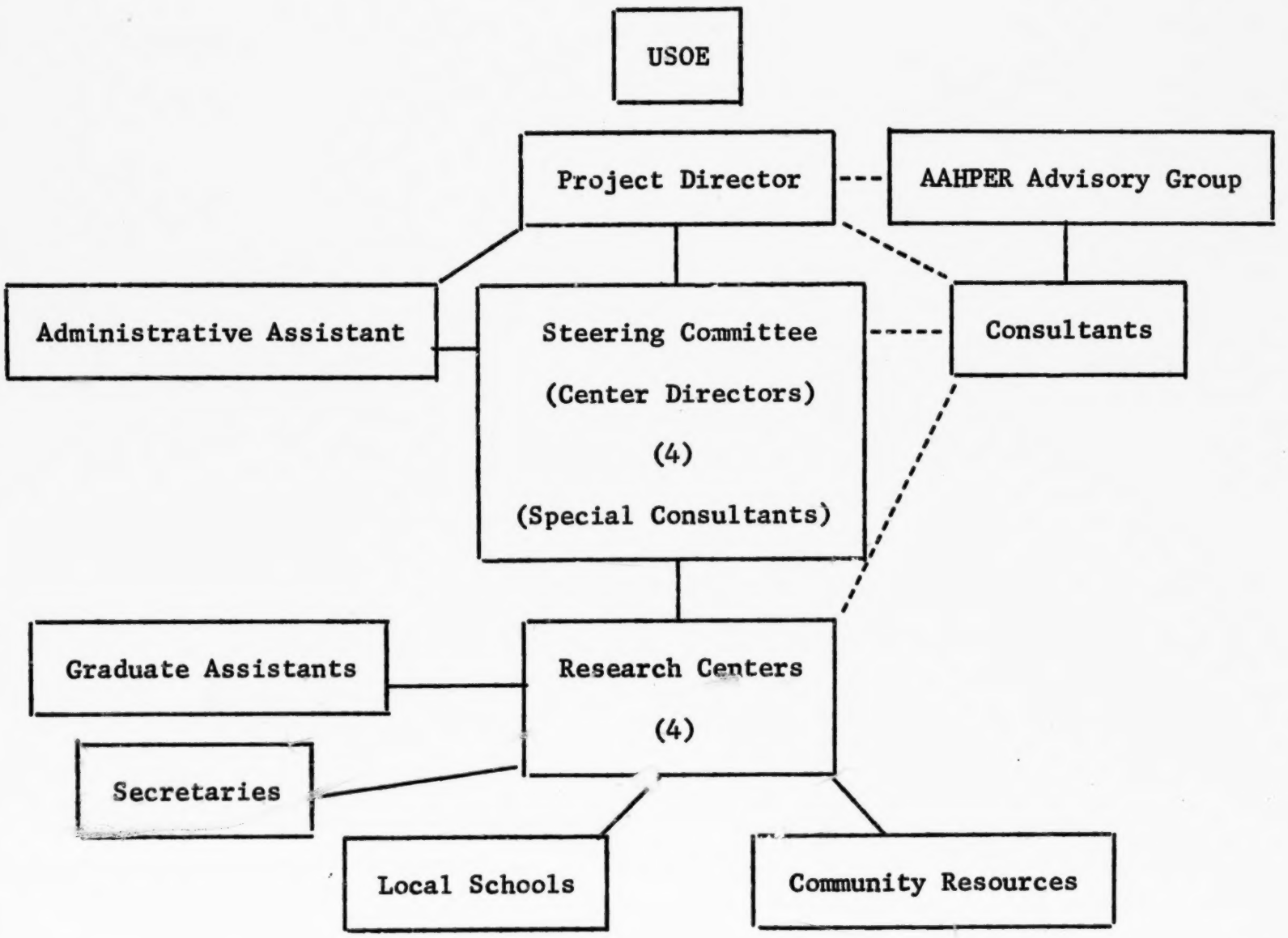
Phase I will be directed and coordinated by the project director (who will devote three-fourths of his time to the project) assisted by a Project Steering Committee. This committee will consist of the assistant to the projector director, the directors of each of the Field Research Centers, and additional members appointed by the Project Director as deemed necessary by him.

Field Research Centers

Field Research Centers will be established at four major

FIGURE 2

Organizational Structure



universities. While there will be some emphasis placed upon the geographical distribution of the centers, selection will be made primarily on the basis of:

a. the availability of qualified research personnel;
b. administrative feasibility of locating a center at the university;
c. the existence of good public school resources, including cross-cultural representation, for physical education curriculum experimentation in the immediate vicinity;
d. the interest and qualifications of local public school personnel.

Selection of personnel

Principal investigator

(The principal investigator must be specified by name and his qualifications enumerated in the grant application.) The appointment of the principal investigator is for 30 months to coincide with the funding period. Project headquarters will be located at the home university of the project director.

Administrative assistant

A full time administrative assistant will be appointed by the project director, and in addition to his routine administrative duties will serve on the Project Steering Committee.

Field Research Center Directors

Field Research Centers will be established at four major universities. The director of each of these centers will devote approximately one-half of his time to the conduct of field research activities of the center. Selection of sites for the Field Research Centers will be based in part on the availability of qualified personnel to serve in the capacity of Field Research Center director. Each director will be a professor who is a physical education specialist with an orientation toward the conceptually structured curriculum. In addition to directing and coordinating the activities of the separate Field Research Centers, the directors will serve as members of the Steering Committee for the entire project.

Assistants

The project director will be provided with a full-time secretary. Field Research Center directors will be assisted by the assignment of one full-time research assistant (or

the equivalent in two or more part-time appointments) and one full-time secretary.

Consultants

Experts in physical education and allied disciplines are to be appointed as consultants by the project director as deemed necessary. Nominations for consultants will be obtained from members of the Project Steering Committee as well as from interested groups and individuals.

Synthesizers - At least two of the experts chosen to serve as consultants will be selected on the basis of their possession of broad insight encompassing the total discipline of physical education, depth of understanding of the current body of knowledge in physical education, skill in the use of logical processes and the ability to synthesize and verbalize effectively. These people will work closely with the director in organizing the content and writing up the various drafts of the conceptual framework as it develops.

Framework consultants - At least two people who are experienced in the conceptual approach to curriculum revision in disciplines other than physical education will be appointed to work in an advisory capacity to the Steering Committee.

Subject matter consultants - Specialists selected on the basis of their expertise in the areas of growth and development, physiology of exercise, analysis of human movement, sociology and anthropology, philosophy and history, psychology and motor learning, creative movement, and related subjects will be employed to advise the Steering Committee during the expansion and refinement of the conceptual framework with particular emphasis on the identification and statement of subconcepts that are unique to each of the areas mentioned above. They will work independently, drawing upon criteria provided by the project director, and utilizing all available research literature in the foundation of specific principles and subconcepts which are to become the basis for the development of materials and experiences by the Field Research Centers.

Procedure

Inasmuch as this study is designed primarily to develop a conceptual framework and to explore ways in which a

curriculum for physical education can be developed from such a framework, procedures will be designed which limit the present study to these considerations. It is assumed that subsequent studies will deal with formal evaluation of the curriculum, the final dissemination of materials to educators at large and an extensive program for retaining teachers. Additional grant requests will be submitted for this purpose.

Phase I. Development of the conceptual framework

The first six months of the study will be spent in the development of concepts, drafting specific objectives or "goals for the learner," and determining the grade level at which these objectives will be placed in the curricular framework.

Key concepts

The key concepts (hereafter called "zero-order concepts" and designated as C.) and the first-order concepts developed (C_1) by the 1966 Preliminary Planning Committee will serve as the basis for further development of the conceptual framework out of which a physical education curriculum is to be constructed. While some modification of these concepts (C., C_1) may be desirable in the light of subsequent work, it is expected that the extent of such modifications will be minimal.

Framework development

General responsibilities - The project director together with the Steering Committee and subject matter consultants will establish the criteria for the development and statement of specific subconcepts that will provide the basis for experimentation in the Field Research Centers. The directors of the Field Research Centers will serve as liaison between the Steering Committee and the personnel of the separate research centers. They will keep research center personnel informed of Steering Committee deliberations and actions and, conversely, will submit reactions and suggestions from the research centers to the project director and the Steering Committee.

Concept development - Zero and first-order con-

cepts ($C_.$, C_1) as presented in Table I on page 9 will serve as the basis for further concept development.

Concepts of the second order (C_2) through the final order (C_f) in each category are to be developed by the Steering Committee working in conjunction with the field research centers.

Steps to be followed in the first phase of the study:

Step 1 - The Steering Committee (including the project director and consultants) will meet to develop and draft all subconcepts that are to be included in the conceptual framework. The first meeting will be scheduled to last for three days during which procedural guidelines will be drawn up and concept development will begin.

Step 2 - Research center directors will take the accumulated framework materials to their respective centers where a series of meetings will be held with all research center personnel. Centers, working independently, will be expected to prepare, as completely as possible, a conceptual framework including all concepts ($C_.$ thru C_f) that are to be included in the entire curriculum framework. (30 days).

Step 3 - At a second meeting of the Steering Committee the frameworks developed at the various centers will be integrated and a new conceptual framework will be drafted. The project director will be responsible for completion of this draft of the framework. It is anticipated that this meeting will require a three-day period.

Step 4 - Assignments for the development of specific program objectives will be made on the basis of the nature of the final-order concepts (C_f) developed by the committee. Research centers with appropriate interests and capabilities will be assigned subconcepts (C_f) for which objectives are to be formulated. As these objectives are developed, the progressions through which these objectives should be met will also be determined. (90 days).

The project director together with the Steering Committee and selected consultants will develop the

initial format providing necessary guidelines for determining sequential level(s) for which opportunities relating to a particular concept are to be created. In some cases, such opportunities might need to be developed for several sequential levels through a series of progressively more sophisticated applications. In other instances, a concept might be adequately covered through opportunities provided at a single level. Although it may become necessary to modify this curricular outline, the work of the research centers cannot be logically undertaken until an overall scheme of the location of concept presentation is available.

Step 5 - Objectives and suggestions concerning progression worked out by the separate research centers will be evaluated and coordinated by the Steering Committee. Copies of the work of all centers will be made available to each committee member two weeks before the meeting of the entire Steering Committee. At this meeting, the suggestions of the centers and the ideas of the Steering Committee members will be integrated into a single document. After appropriate rewriting and editing the proposed framework will be sent to the research centers for their evaluation of the entire framework. (4 weeks).

Step 6 - Proposed framework will be returned to the project director with the suggestions of the research centers; the director will again be responsible for editorial and rewrite tasks. (3 weeks).

Step 7 - After editorial changes the conceptual framework will be mailed to a group of individuals (as selected by the project director with the approval of the Steering Committee) numbering approximately one-hundred and representing a variety of geographical regions, professional interests and academic backgrounds. Although each of the "committee of one-hundred" will be free to make any subjective assessment he wishes, he will be asked to fill out a special evaluation form in order to simplify the collating of criticisms and suggestions.

The Steering Committee, including appropriate consultants, will aid the director and his staff

in integrating the suggestions of the committee of one-hundred into finalized framework. (3 months).

Phase II. Development of specific experiences, methods and materials

The second phase of the study will be primarily concerned with developing specific learning opportunities, methods and materials for use in achieving the objectives previously established. Research centers will be assigned appropriate objectives and charged with the responsibility of formulating a list of topics and ideas that show promise for utilization as experiments, activities, demonstrations, lectures, and other experiences in the execution of the curriculum.

While it is clearly not possible within the time limitations of this study to prepare detailed learning opportunities for the entire curriculum from the elementary grades through senior high school, it is essential that the curricular framework be constructed for the total school system in order that, eventually, adequate opportunities, appropriate in terms of meaningful continuity, can be designed. In the meantime, emphasis will be placed on the logical placement of experiences in order to most effectively implement the most important concepts. This means that experiences relating to many (if not most) concepts must be prepared for the elementary grades. Since, however, it is probable that the elucidation of other concepts will not be attempted until later in the educational structure, experiences relating to these latter concepts will not need to be prepared for the lower grades. As previously mentioned, however, time may not permit the actual working out of the experiences of the upper grades during the course of this particular study. Therefore, the efforts of the people involved in this study will be to produce a conceptual framework for a complete curriculum in physical education, but detailed experiences, experiments, activities, etc., will be structured only for grades 1-6.

Step 1 - Each center will formulate a priority list of ideas, topics, and suggestions for learning opportunities for submission to the director.

Step 2 - The director and the Steering Committee will approve topics that are to be undertaken by the various centers. As new suggestions arise, they should be forwarded to the project director for approval before being developed by the research center.

Step 3 - Research centers will work to develop practical

learning opportunities; ideas will be tried out in the schools, A-V materials and special devices designed and tried; all ideas, methods and materials will be clinically evaluated for their relative merit, revised and re-evaluated. Appropriate opportunities will be developed for as many of the concepts as possible in the time available. Appropriate records (standard forms for all centers) will be kept of opportunity outlines, equipment needed, valuable reference materials, etc. (20 months).

Phase III. Compilation of Results

Step 1 - The final reports of the research center directors together with all developed ideas, materials and equipment will be forwarded to the project director.

Step 2 - The Steering Committee will work closely with the project director in tying together the efforts of the various research centers. The experiences, methods and materials will be incorporated into the curriculum framework and the total curriculum outline completed (insofar as experiences will permit).

Step 3 - The research director will polish, edit and submit the proposed curriculum as a part of his final report. (3 months).

Conclusions and Implications

The conduct of this planning project has led to the following conclusions relative to the proposed long-term research project directed toward the identification and evaluation of a conceptual framework for the curriculum in physical education:

1) A national level, long-term study is very much needed. It is increasingly clear, through the interest expressed in this project, that physical educators in all geographic regions of the country and at all educational levels, feel the need for national leadership in establishing guidelines for sound development of curricula consistent with contemporary understanding of the nature of man and the nature of the learning process.

2) An approach emphasizing the development of a conceptual framework for the curriculum in physical education is generally supported. However, some serious difficulties persist:

a. The term "concept", as used in physical education

curriculum study, must be interpreted to include the unique dimension of physical education. Concepts can be defined as generalizations, understandings, meanings, mediating variables, classifying behaviors, or inter-relationships among facts. But, the concepts guiding the development of physical education curricula cannot be limited to knowledge about movement; they must not center upon intellectualizations concerning physical activity; they should not focus exclusively upon cognitive development. Appropriate concepts to be developed through physical education experiences may certainly include aspects of each of the above, but must retain emphasis upon learning through movement-oriented experiences; physical education must continue to be an active program.

b. The relationship of a "conceptual framework" to potential improvement of local physical education curricula is not understood by a significant number of persons employed as physical educators.

c. An adequate degree of consensus on the specific components of the conceptual framework has yet to be achieved.

d. A limited supply exists of curriculum specialists in physical education qualified to give leadership in the development of a theoretical framework essential to sound curriculum innovation.

3) Although support for the general pattern of a research design described in the attached plan is strong, certain crucial issues are still unresolved;

a. It appears likely that the need for a taxonomy of movement and for further clarification of terminology will delay the possibility of productive study of curriculum patterns and/or strategies in on-going public school situations beyond the time initially anticipated.

b. No consensus has been reached on the specific criteria to be used in selecting personnel or institutions for participation in the study.

c. Differences of opinion concerning the appropriate roles of elementary and secondary school personnel

and of college and university members of research teams are still unresolved.

d. The problem of selecting leadership for curriculum research efforts is complicated by the fact that most experienced research personnel in the physical education profession are oriented toward biological research (primarily in the areas of kinesiology and physiology of exercise), and most physical educators who carry key responsibilities for curriculum planning are not sophisticated in research procedures or sufficiently knowledgeable concerning research activities in other curricular fields.

The accomplishments of this project completed with U. S. Office of Education support may be summarized as follows:

1) A tentative design for long-term research directed toward the identification and evaluation of a conceptual framework for the curriculum in physical education has been developed. This tentative research plan can provide the base for future efforts of the American Association for Health, Physical Education and Recreation to give national leadership in the improvement of physical education curricula and programs.

2) Certain key issues and crucial problems facing the physical education profession in its task of improving school programs for children and youth have been identified and clarified.

3) The need for curriculum improvement in physical education has been brought into sharper focus. Many individual physical educators not directly involved in this planning project have become aware of existing weaknesses in current programs. The controversial elements which have made it so difficult to achieve consensus in some instances have at the same time, stimulated much thinking and prompted increased activity in examining local curricula.

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APPENDIX A

Examples of possible subconcepts (C_2 through C_f) without regard to specific order.

The individual's skeletal-neuro-muscular structure determines his capacity for movement.

Increased endurance permits the individual to participate in more prolonged activity and to perform more strenuous tasks.

An individual's range of movement limits or allows for the accomplishment of specific movements.

Each person's movement is affected by how he perceives himself within his environment.

Individual movement patterns can be developed to achieve specific human purposes in new ways.

Human movement is subject to prinicples of gravity.

Human movement is subject to Newton's laws of motion.

Human movement is subject to principles governing the operation of levers.

Human movement varies according to the properties of the environment in which movement occurs (land, water, earth's atmosphere, space).

Human movement may be oriented in surrounding space in a variety of ways (direction, distance, level, etc.).

Human movement may be related to a variety of rhythmic patterns.

Human movement performance requires adaptation of individual movement patterns to other objects in the environment (animate and inanimate).

Human movement varies according to the circumstances and values of a particular cultural setting, including present and anticipated time-place environments.

An individual increases his capacity for training through movement.

Endurance is developed through gradually increasing the duration of the effort.

Muscle groups can be strengthened by exercise using gradually increasing resistance.

Repeated correct use of the muscles involving specific joints may maintain normal joint motion.

The ability to relax is one of the conditions necessary for continuation of skilled performance.

Movement within different environments extends and broadens perception.

The kinesthetic sense can be developed through a wide range of movement experiences.

A variety of movement skills and understandings may provide increased opportunities for social interaction.

Movement skills provide resources for becoming a fully functioning individual in a society which requires self-fulfillment through leisure.

Individual movement responses express personal uniqueness.

Individual movement responses reflect the person's concepts of himself and his relationships to his environment.

Every culture utilizes certain common movement patterns as communication media.

Key movement skills vary in different human societies.

Complex movement patterns can be developed to serve specific communicative purposes.